

# Ruffed Grouse Drumming Survey

## 2014

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### **Abstract**

Statewide ruffed grouse population indices decreased 1% between 2013 and 2014, based on the number of drumming grouse heard during roadside surveys. Changes in indices to breeding grouse populations varied by region, and the statewide mean number of drums/stop was not significant ( $P= 0.93$ ) from 2013 to 2014. Drummer densities on the two research areas, the Sandhill Wildlife Area in Wood County and the Stone Lake Experimental Area in Oneida County were mixed, Stone Lake showed a decrease of 6% and Sandhill an increase of 24% from 2013 levels.

### **Methods**

#### **Statewide**

Counts of drumming grouse heard along roadsides were conducted on 93 transects throughout the state in 2014. Twenty-four statewide transects were considered to be zero and not run in 2014 and no routes were not run due to weather conditions. This roadside survey has been conducted annually since 1964 by DNR wildlife managers, wildlife technicians, foresters, law enforcement personnel, USFS staff, and Ruffed Grouse Society volunteers to determine grouse population trends throughout Wisconsin. A new 10-stop survey on 117 randomly located transects was initiated in 1994 and continued in 2014. This year marked the twenty-first year that the "new" ruffed grouse surveys were run. As per the change over plan, no "old" drumming routes were run since 1996. Also, "new" routes which had counts of zero for the first three years were not to be run for three years. After that three year period, they are to be run again every 3 years to confirm that they indeed are still zero.

Procedures for the "new" routes were similar to the earlier survey protocols except for one count instead of two and 10 stops instead of 15. Survey data were entered into the DNR server and summarized using the Statistical Analysis System (SAS).

#### **Research Census Areas**

DNR research personnel have conducted a census of drummers on Sandhill Wildlife Area and Stone Lake Area since 1968. This survey has provided comparative statistics on population trends and an estimate of drummer density. Searches for males were conducted during favorable weather between 1 April and 10 May. The census on the Sandhill Wildlife Area encompassed 2,020 acres of grouse habitat in the area open to hunting and 1,300 acres within the unhunted portion of the area. The census on the Stone Lake Experimental Area in Oneida County encompassed 3,310 acres of grouse habitat.

## **Results**

### **Statewide**

Roadside survey responses were received from wildlife managers, wildlife technicians, and other cooperators that helped conduct the survey on 93 transects in 2014. Twenty-four transects were considered to be zero and not run in 2014. While weather conditions were questionable early on in the survey period, with snow cover in much of the state, all routes were run despite the late spring, or poor survey conditions. The total number of routes used in estimating a statewide ruffed grouse drumming index in 2014 was 117. This is more than the 114 routes used in 2013.

Statewide, ruffed grouse population indices decreased between 2013 and 2014 (Table 1). This is the third decrease in the ruffed grouse indices since 2011. Survey indices show a decrease in drumming grouse in two of the four regions of the state (Fig. 1-6). Statewide, overall changes in results were not significant ( $P=0.93$ ) between 2013 and 2014. Transects completed in both 2013 and 2014 were compared to detect population changes. Transects were considered to have changed from last year if the change was greater than two drums per transect. The number of transects with decreased drumming outnumbered by 26 to 23 those that showed increases, with 65 transects unchanged.

Breeding grouse and grouse brood production were down during the spring and summer of 2013. This probably set the stage for a decline in breeding grouse numbers in 2014. Wisconsin's primary grouse range, the Central and Northern Forest regions, showed mixed results. The Central Forest had a decrease in breeding grouse of 23.5% this spring, while the Northern Forest had a small increase of 3.1%. Wisconsin is well past the peak in the grouse cycle and appears to have settled into the bottom of the cycle; it is likely that declines in breeding grouse numbers will continue for a few more years until we start to see numbers go up till the next grouse high.

Despite a late arriving spring with much of the north with snow cover for the month of April, survey conditions for 2014 were similar to those in 2013. Surveyors rated the overall survey conditions as "excellent" on 56% of transects runs, while 58% rated the overall conditions as "excellent" in 2013. Surveyors rated the conditions as "Fair", the lowest available weather condition rating, 6% of the time in 2013 and 7% in 2014. Survey conditions do influence drumming activity and may cause grouse numbers to be over or under estimated.

### **Research Census Areas**

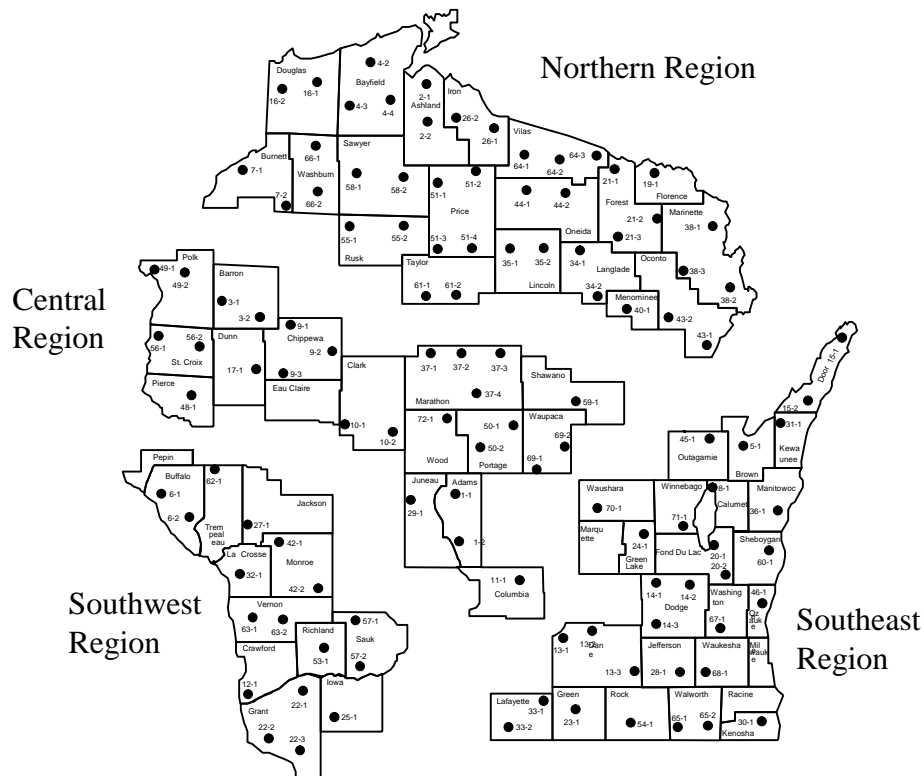
Grouse numbers on the Sandhill Wildlife Area were up in 2014 (Table 2). Sandhill Wildlife Area increased 24% (46 vs. 37 birds in 2013) while the central region of the state showed a decrease of 24% in drumming activity on the roadside survey. The unhunted portion of the wildlife area (1,300 acres) increased by 2 birds in 2014 (13 vs. 11 in 2013). The hunted portion of the wildlife area (2,020 acres) had an increase in breeding grouse, with 33 birds counted in 2014, up from 26 in 2013. The Stone Lake census area had fifty birds counted this spring; fifty-three birds were counted in the spring of 2013. This is a decrease of 6% on the Stone Lake area, while the northern region of the state showed a 3% increase on the road side survey. The survey technique used to measure grouse densities on these two areas is different than that used on the statewide survey. Any comparison of these results to statewide totals should be done cautiously.

**Table 1.** Ruffed Grouse drumming results 2013-2014, drums per stop (routes run), % change, and number of routes with a change of greater than 2 drums per route from 2013 levels.

Region	Drums/Stop 2013 (routes run)	Drums/Stop 2014 (routes run)	% Change	# of Decreasing Routes	# of Increasing Routes	# of Routes with No Change
Central	0.85 (26)	0.65 (27)	-24%	8	3	15
Northern	1.70 (41)	1.76 (43)	3%	15	18	8
Southeast	0.01 (30)	0.02 (30)	100%	0	0	30
Southwest	0.21 (17)	0.19 (17)	-10%	3	2	12
<b>Statewide</b>	<b>0.84 (114)</b>	<b>0.83 (117)</b>	<b>-1%</b>	<b>26</b>	<b>23</b>	<b>65</b>

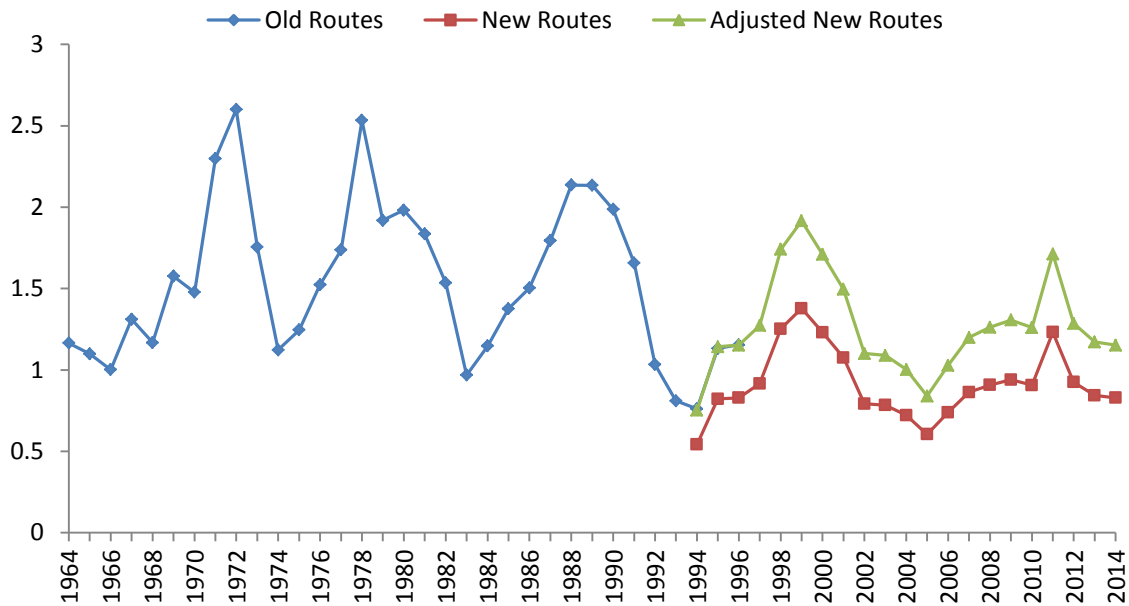
**Table 2.** Drummer densities on the DNR research census areas, 2013-2014.

Area	No. of Drummers (No./100A)	
	2013	2014
Sandhill Hunted (2,020 Acres)	26 (1.3)	33 (1.6)
Sandhill Unhunted (1,300 Acres)	11 (0.8)	13 (1.0)
Stone Lake Exp. Area (3,310 Acres)	53 (1.6)	50 (1.5)



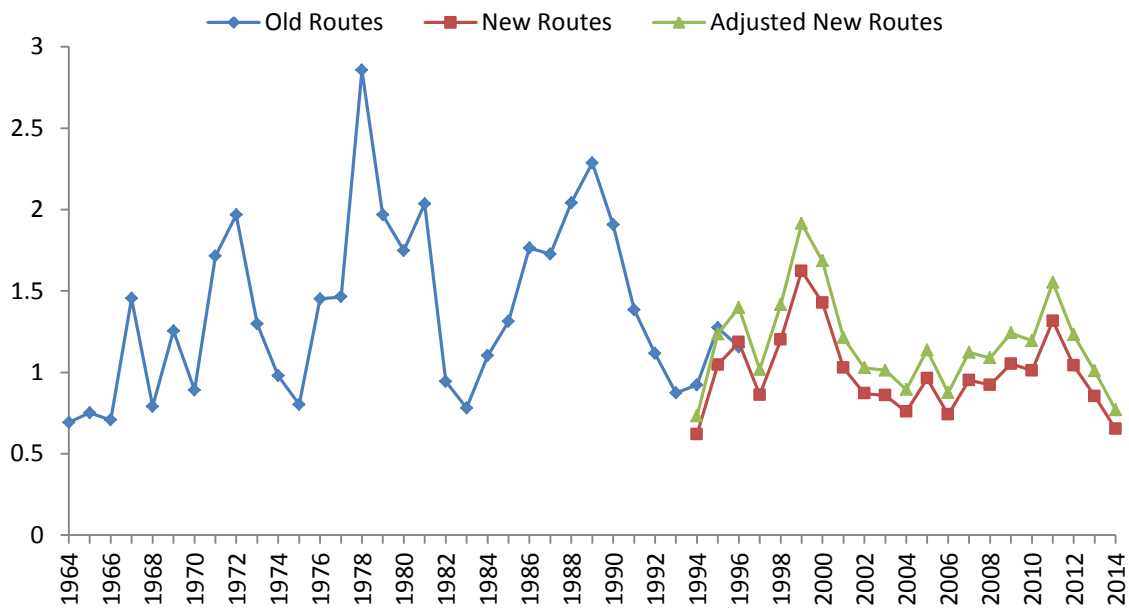
**Figure 1.** Ruffed grouse drumming regions with transect starting points.

## Statewide -- Drums per stop 1964-2014



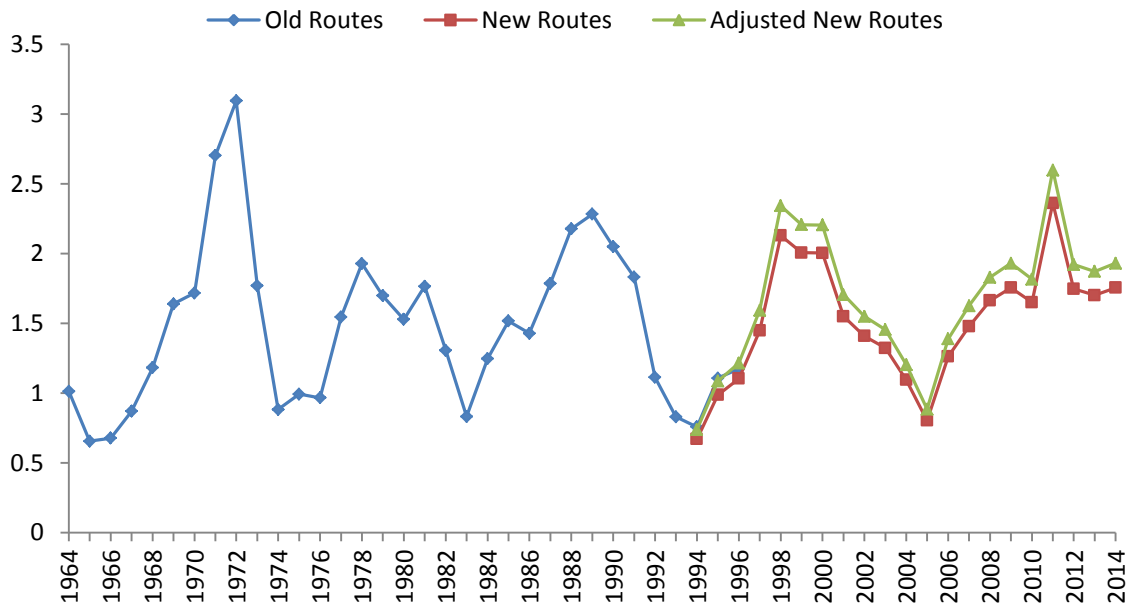
**Figure 2.** Statewide mean number of drums/stop on ruffed grouse drumming routes, 1964-2014.

## Central Forest -- Drums per stop 1964-2014



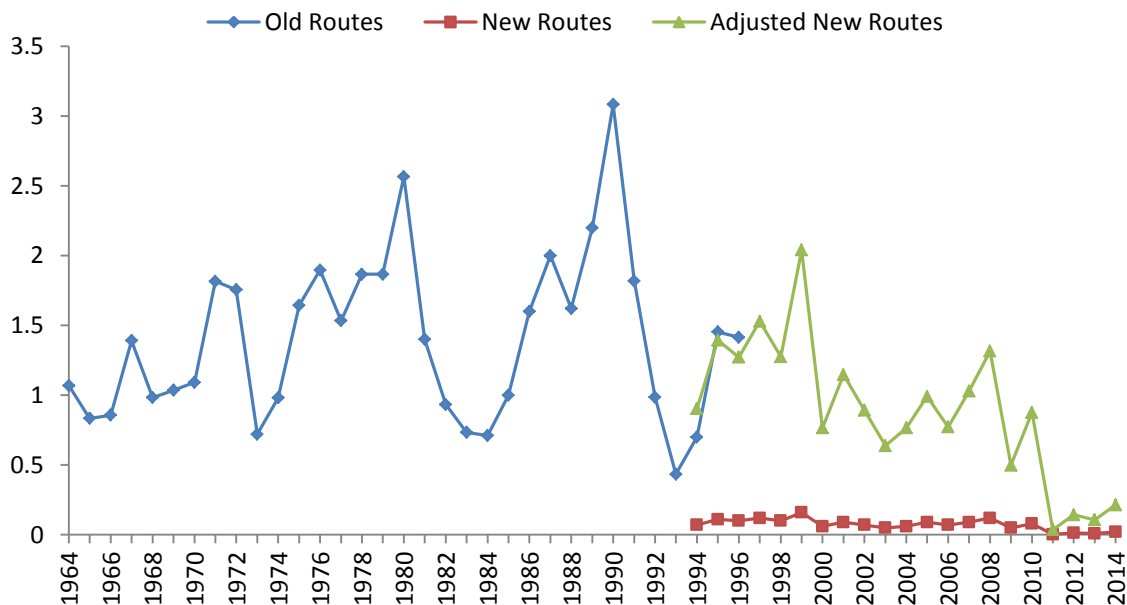
**Figure 3.** Central Forest mean number of drums/stop on ruffed grouse drumming routes, 1964-2014.

## Northern Forest -- Drums per stop 1964-2014



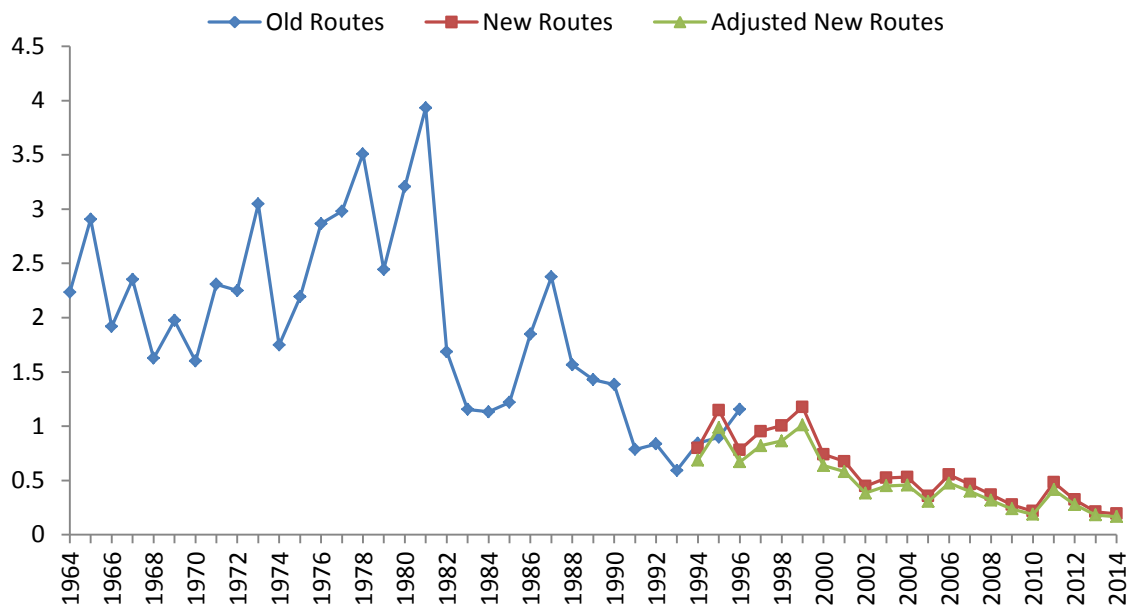
**Figure 4.** Northern Forest mean number of drums/stop on ruffed grouse drumming routes, 1964-2014.

## Southeast -- Drums per stop 1964-2014



**Figure 5.** Southeast region mean number of drums/stop on ruffed grouse drumming routes, 1964-2014.

## Southwest -- Drums per stop 1964-2014



**Figure 6.** Southwest region mean number of drums/stop on ruffed grouse drumming routes, 1964-2014.